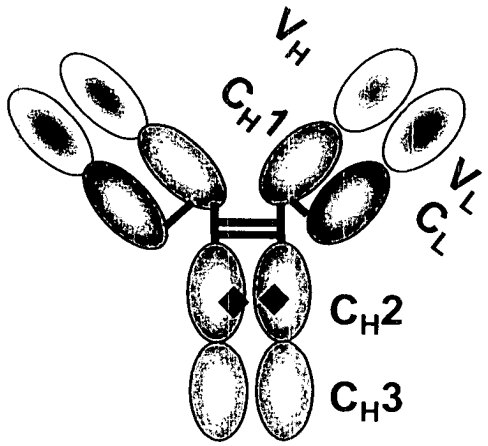


Figure 1A: General Schematic of antibody structure

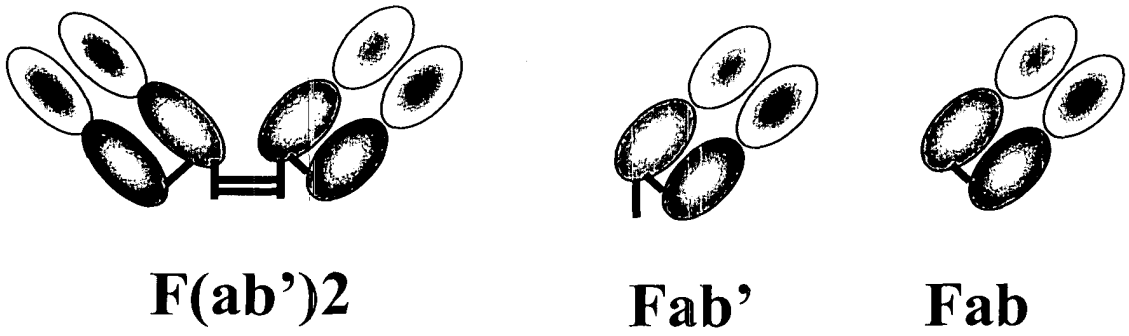
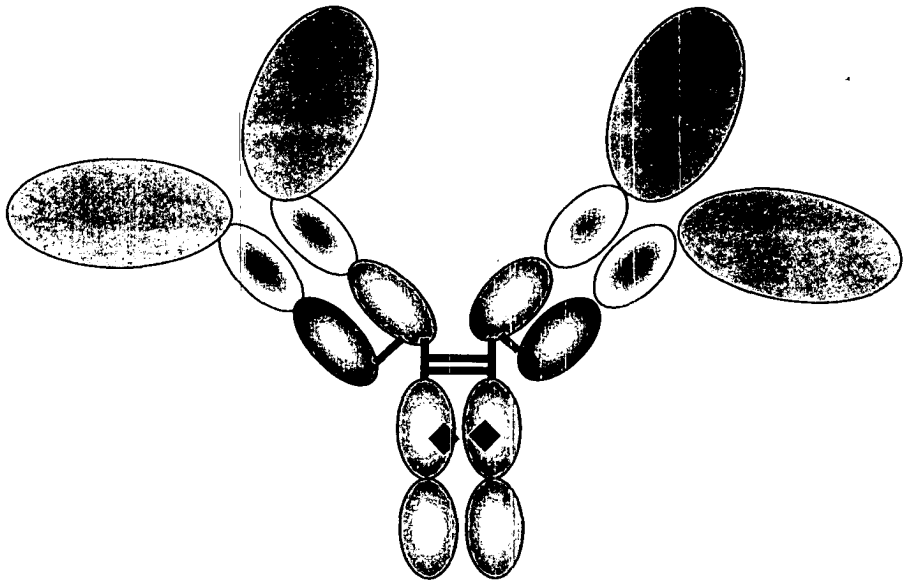


Figure 1B: General Schematic of antibody fragments



Ig-GA

Figure 1C: General Schematic of Antibody-Glucoamylase fusion

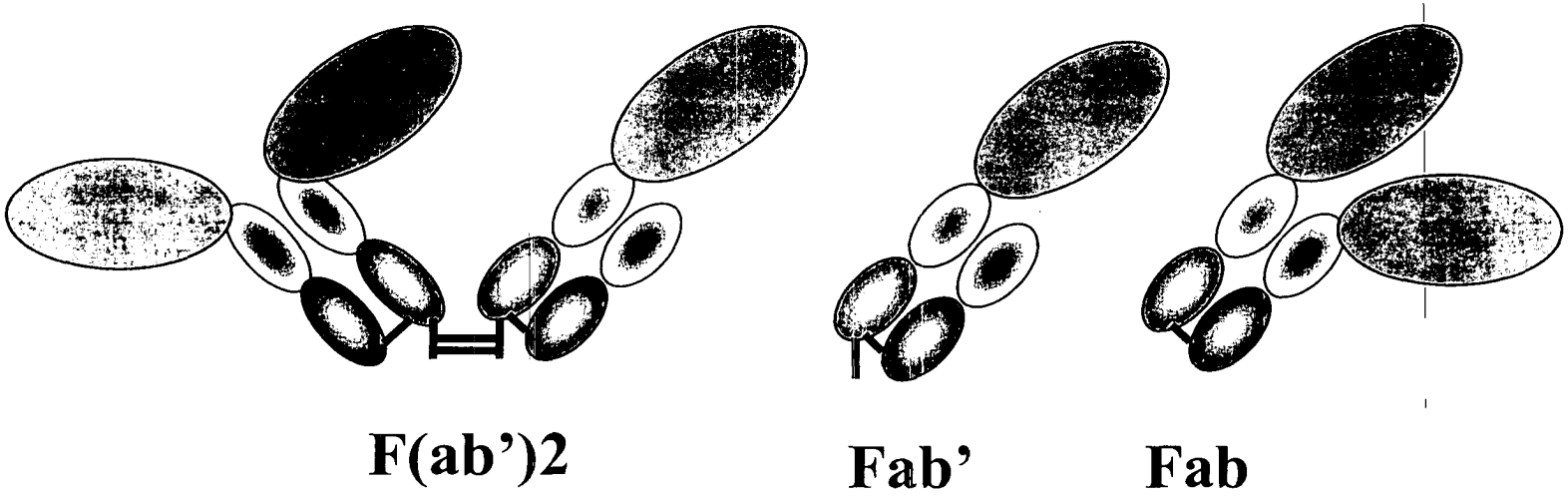


Figure 1D: General Schematic of Antibody fragment-Glucoamylase fusions

Adsorption by Hydrophobic Association

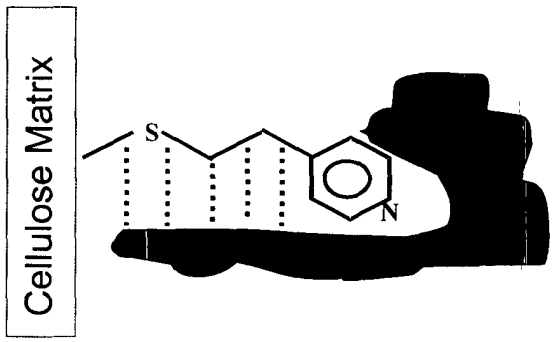


Figure 2A

Desorption by Ionic Repulsion

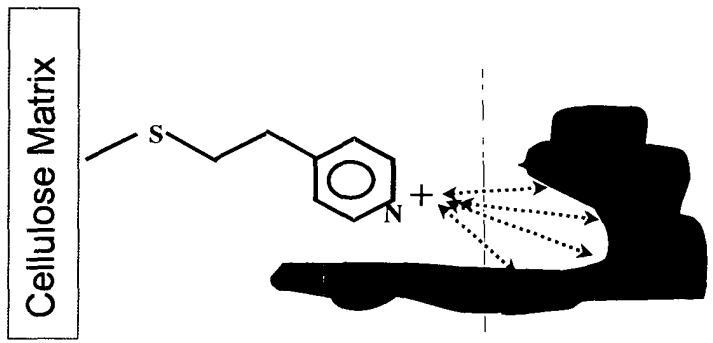
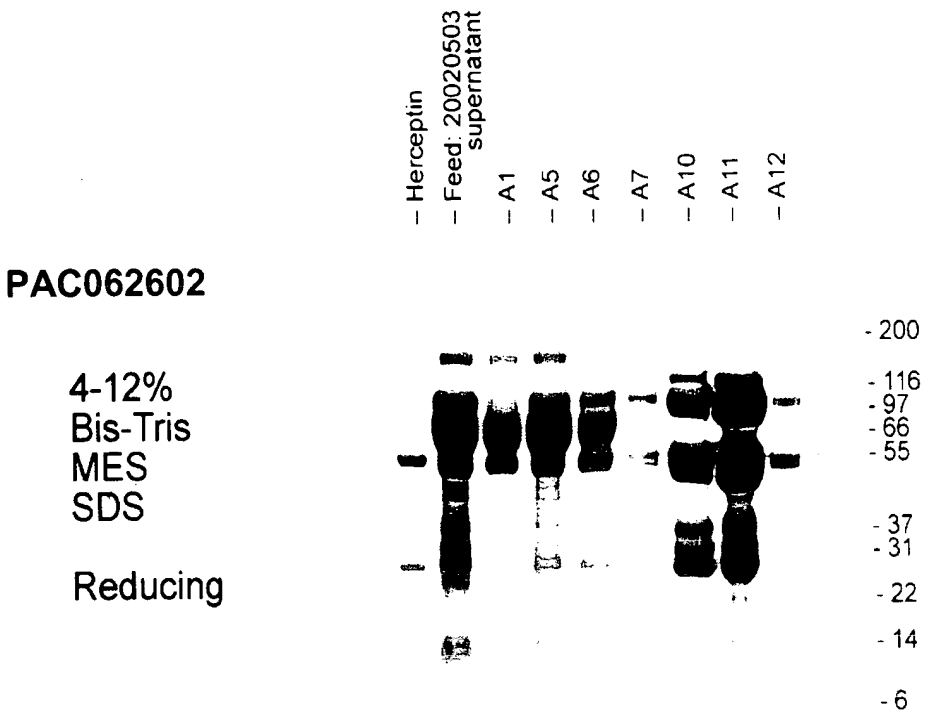


Figure 2B

Figure 3B


– Herceptin
– Feed: 20020503 supernatant
– A1
– A5
– A6
– A7
– A10
– A11
– A12
PAC062602
4-12%
Bis-Tris
MES
SDS
Reducing
- 200
- 116
- 97
- 66
- 55
- 37
- 31
- 22
- 14
- 6

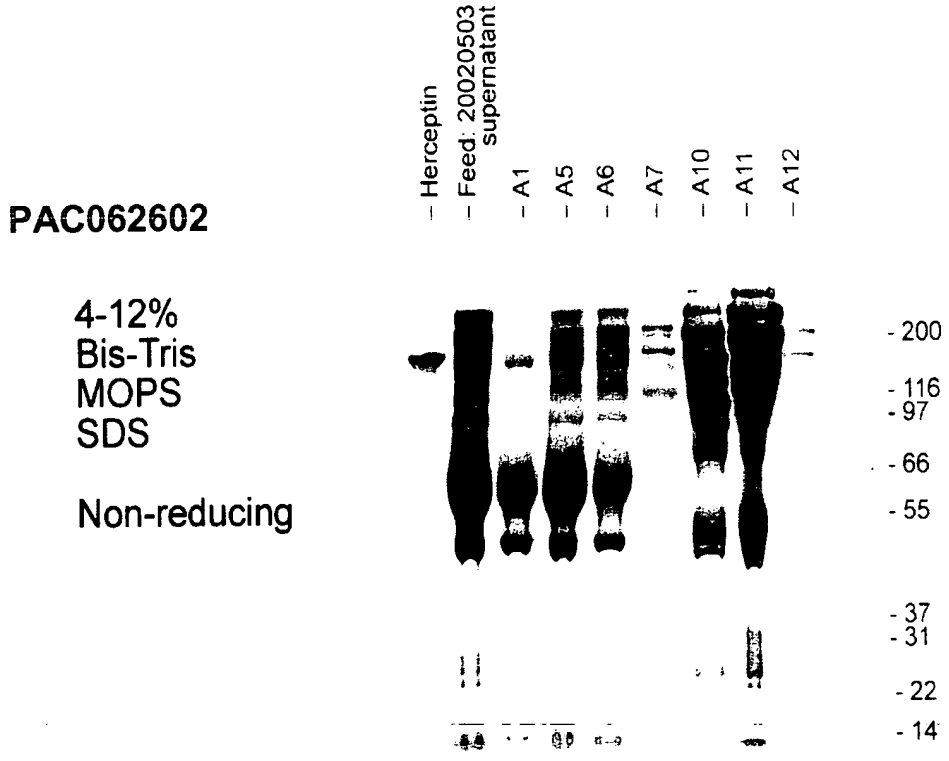

– Herceptin
– Feed: 20020503 supernatant
– A1
– A5
– A6
– A7
– A10
– A11
– A12
PAC062602
4-12%
Bis-Tris
MOPS
SDS
Non-reducing
- 200
- 116
- 97
- 66
- 55
- 37
- 31
- 22
- 14

Figure 3A

Sample loaded: 50 mL treated Fermentation 503 Supernatant UFC. Treatment includes neutralization of 500 mL to pH 7.7 with 50 mL 1 M NaOH; centrifugation 25000xg; and vacuum filtration through 0.8, 0.45, and 0.22 µm filters with 10 g FW12 precoat.

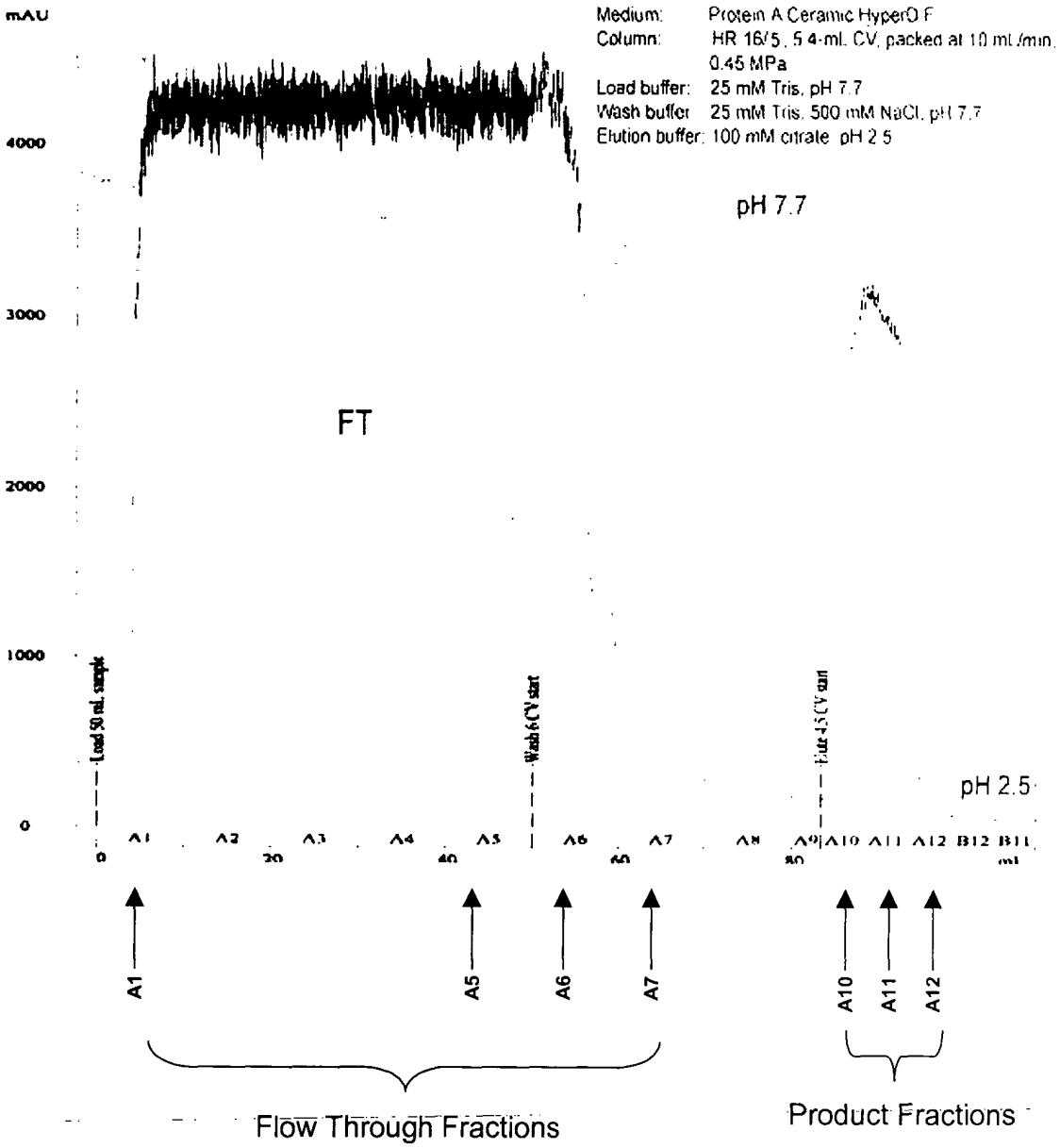


Figure 4A

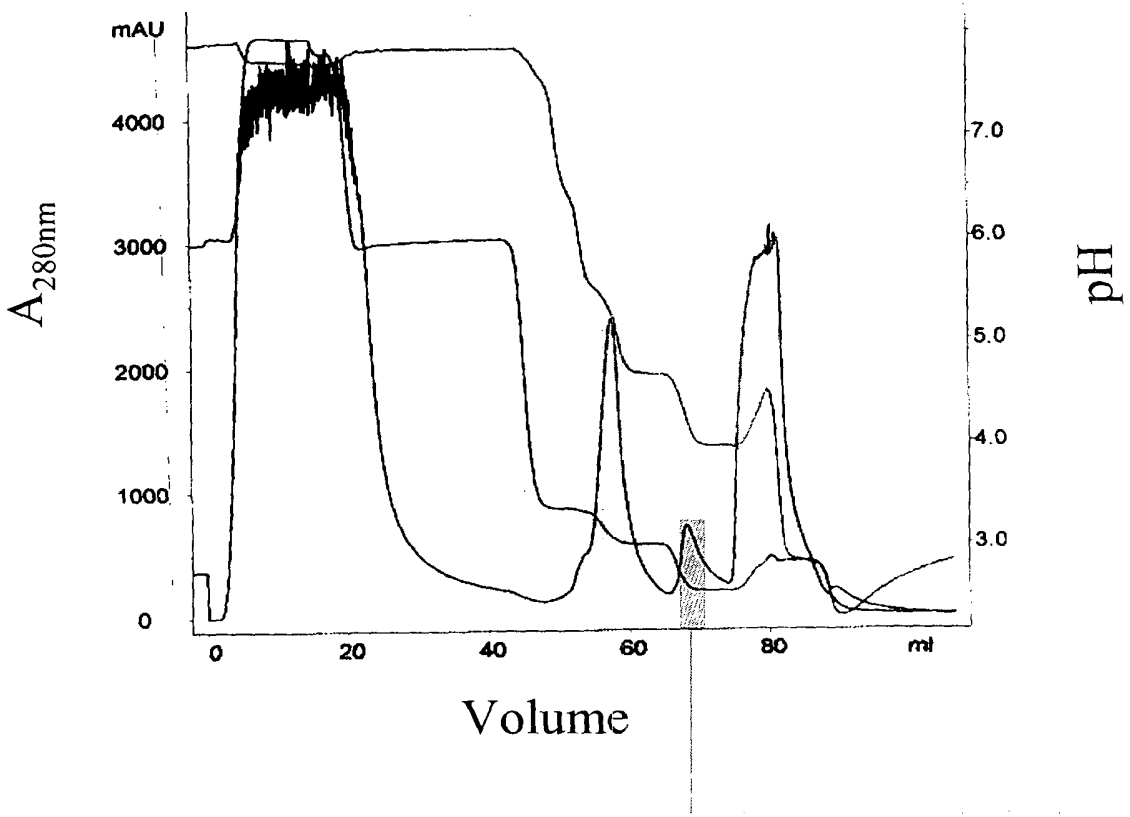


Figure 4B

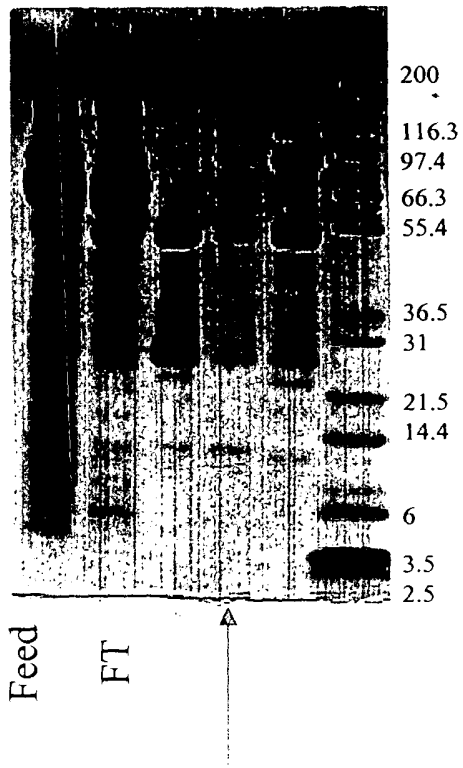


Figure 4: HCIC for mAb/mAB-GA Separation

Figure 5A

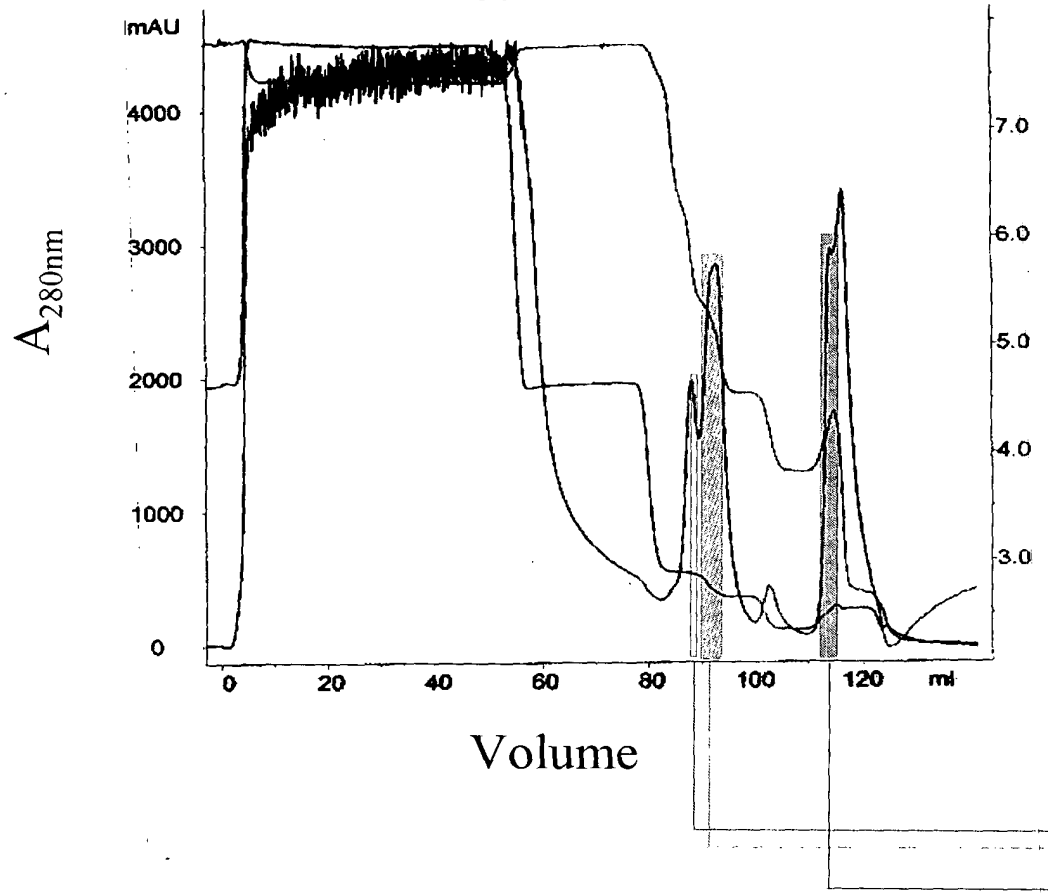


Figure 5B

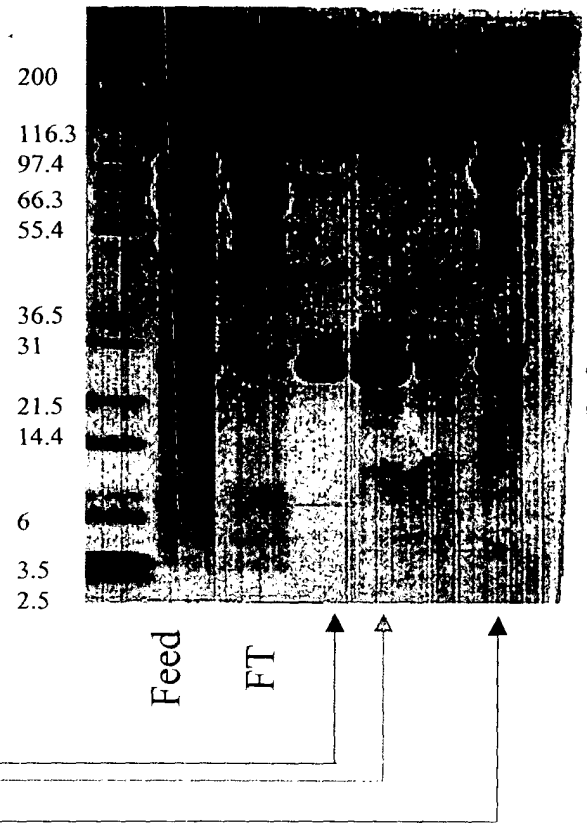


Figure 5: HCIC for Fab'/Fab'-GA Separation

Figure 6

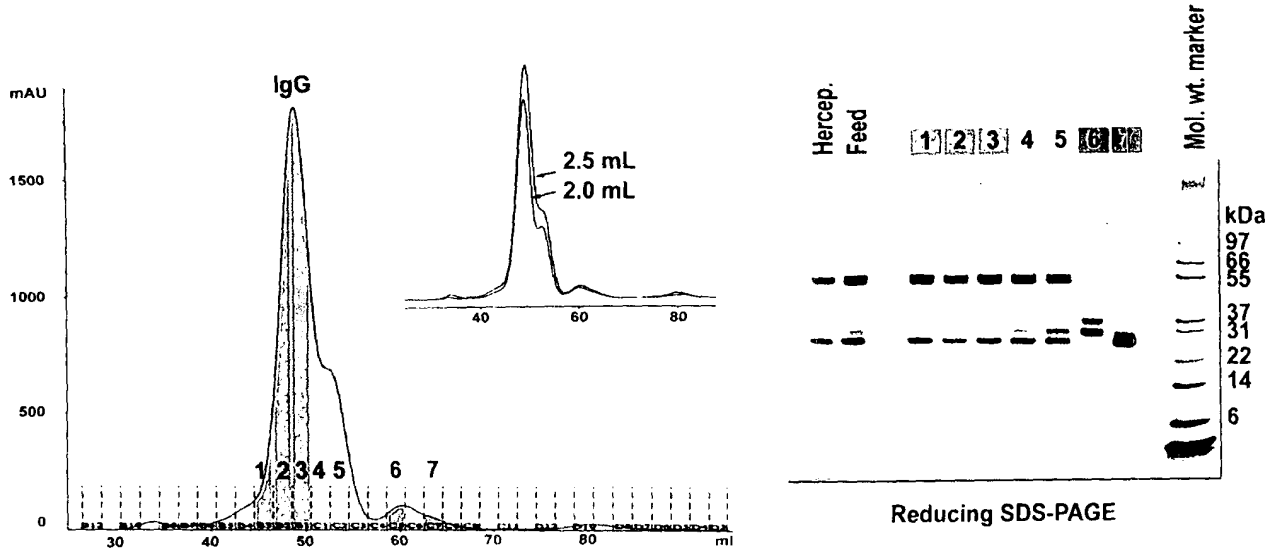

mAU
1500
1000
500
0
IgG
2.5 mL
2.0 mL
40
60
80
1 2 3 4 5 6 7
30
40
50
60
70
80
ml
Hercep.
Feed
1 2 3 4 5 6 7
Mol. wt. marker
kDa
97
66
55
37
31
22
14
6
Reducing SDS-PAGE

Figure 7

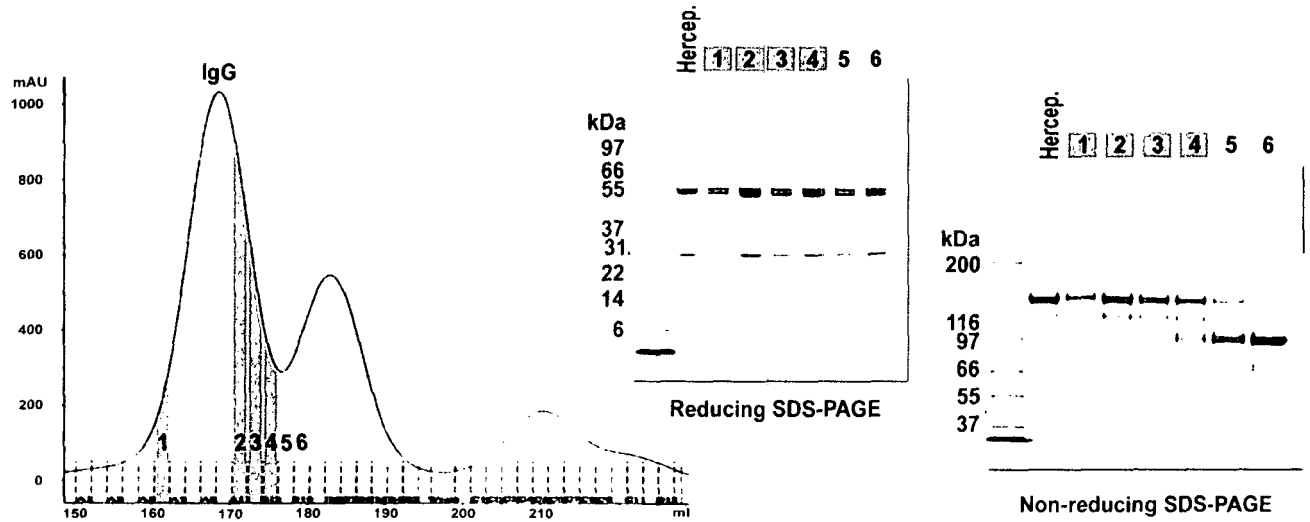

mAU
1000
800
600
400
200
0
IgG
1
23456
150
160
170
180
190
200
210
ml
Hercep.
1 2 3 4 5 6
kDa
97
66
55
37
31
22
14
6
Reducing SDS-PAGE
Hercep.
1 2 3 4 5 6
kDa
200
116
97
66
55
37
Non-reducing SDS-PAGE

Figure 8

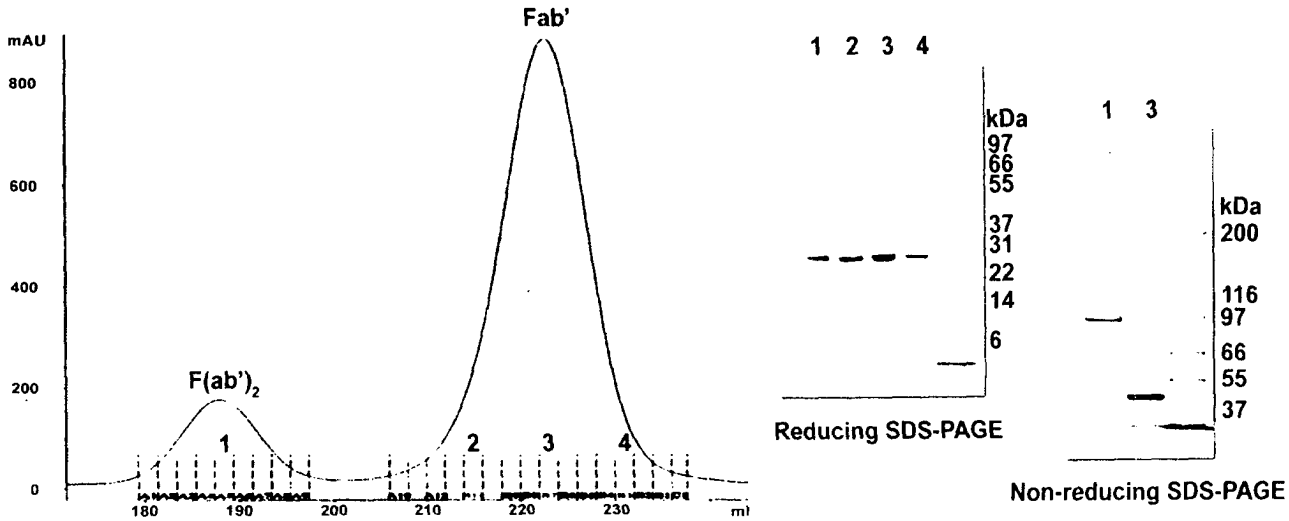
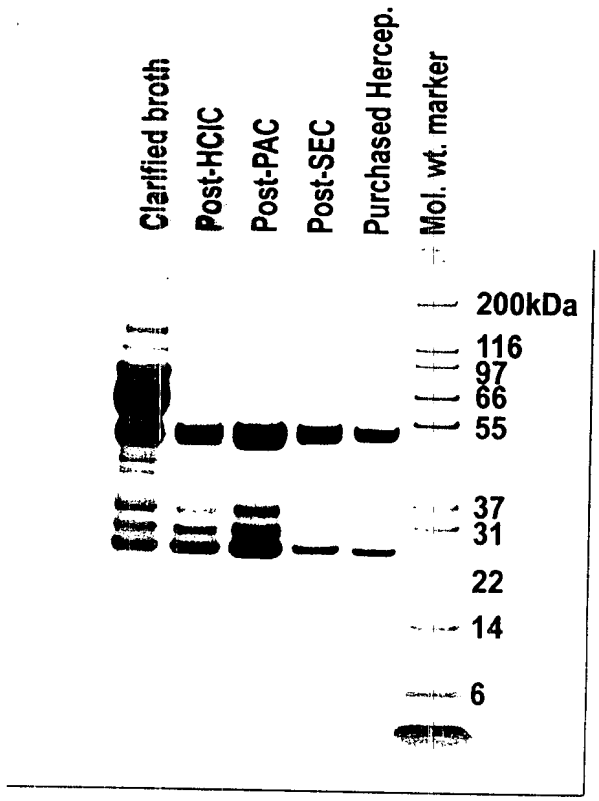

mAU
800
600
400
200
0
Fab'
F(ab')2
1
2
3
4
180
190
200
210
220
230
ml
1 2 3 4
kDa
97
66
55
37
31
22
14
6
Reducing SDS-PAGE
1 3
kDa
200
116
97
66
55
37
Non-reducing SDS-PAGE

Figure 9



Reducing SDS-PAGE